



ANSN Authentic Learning and Digital Portfolios

Findings and recommendations from the research circle

Maureen O'Rourke, 2004

Getting Started

What are digital portfolios?

Digital learning portfolios are essentially collections of student work that represent the learner, demonstrate evidence of the student's efforts, progress and achievements in one or more areas, and illustrate a learning journey. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflection and goal setting.

Digital portfolios emphasise different aspects of the learning process, with some concentrating on the learning journey, others assessment or more commonly a combination of both. Clarifying the purpose of digital portfolio development is one of the keys to successful implementation at a school level.

What is the purpose?

Schools use digital portfolios for a range of different purposes. Unless a clear purpose is agreed upon, digital portfolios can lose focus and meaning - they can also grow to become an unwieldy collection of student work that is difficult to navigate. The purpose therefore guides decision-making as to what should be selected for the portfolio.

Schools in this research circle were clear that they wanted the purpose to reflect students as learners and to provide rich evidence of authentic learning - particularly learning that was valued but not highlighted through traditional assessment and reporting methods. The following are examples of purposeful use of digital portfolios identified by ANSN research circle participants:

- Represent and celebrate the student as a learner
- Provide a structure to set and track progress towards learning goals
- Develop students' ability to reflect on their learning
- Promote a conversation about learning
- Represent what, how and why a student is learning
- Assist and inform transition between year levels
- Track aspects of learning over time
- Enhance assessment and reporting, including three-way reporting

One way to think about the overall purpose of the digital portfolio is through the concept of head, heart and hands: for students to share their thinking, feeling and actions taken during their learning journey.

Decision making and planning

Digital portfolios are best used discriminately rather than trying to use them to represent all student learning. Rather than focusing on curriculum based key learning areas, we recommend taking a holistic view of the student and identifying approximately four areas of development that your school community values and wishes to highlight.

This can change over time or from year to year.

a) Developing focus areas

A starting point for developing focus areas for a digital portfolio template is to address such questions as:

- What kind of young people do we hope to see at the end of their schooling?
- What personal attributes do we believe will enable them to successfully participate in and contribute to society as well as developing a rich personal life?
- What learning and skills do we value but don't currently highlight in our assessment processes?

Schools in the research circle generally chose to build their portfolios around values, generic skills and personal attributes. Initially they workshopped ideas in response to the above questions, then reached consensus about focus areas, sometimes after further consultation with students and parents. Some schools began by engaging in in-depth discussions about student learning or by choosing one broad area such as personal development and expanding this into indicators and rubrics. Other schools went as far as determining what kinds of evidence students would be required to include in their portfolio.

This raised questions as to how best to involve students in the portfolio development process, particularly in terms of their ownership and contribution to the structure. One reflection from a secondary teacher was insightful, in that she wondered if students valued the focus areas determined as much as the teachers did. The conclusion of the research circle was that broad consultation and involvement of students was a desirable stage of digital portfolio design.

Schools found it necessary to trial, revisit and refine focus areas. This was particularly in relation to developing clarity of communication for students. Meetings with other schools/teachers and having the opportunity to learn about different approaches also assisted with this refining process.

Examples of focus areas developed by schools include:

Me as a Learner Me as a Thinker Me as a Communicator Me as a Socialiser	Academic Self Creative Self Physical Self Social Self
Working in teams Thinking and learning Being an individual Setting and achieving goals Contributing to the community	I organise myself and take responsibility I contribute to the team I show initiative I strive to improve myself

Thinking hard	I am a reader and writer
Listening	I am a mathematician
Getting along with other people	I am an artist
Trying my best	I am fit and healthy
Doing my work	I choose my learning
	I think about my learning

Some schools have highlighted aspects of “Program Achieve - You Can Do It” or Art Costa and Bena Kallick’s “Habits of Mind” (See Appendix 1).

Broad student achievement becomes more conscious, valued and appreciated when specific development, skills and personal attributes are focused upon in a digital learning portfolio.

b) Developing indicators

Once the focus areas have been decided upon, it is necessary to unpack them further. For example, what are the indicators of a successful learner? If people are to work in teams effectively, what kinds of thinking and behaviour do they need to engage in? What are the personal attributes associated with productive team contributions? How do we express our individuality? What are reasonable goals to aim for in developing the physical, creative or social self?

Clear indicators enable students to develop the vocabulary that assists them to reflect upon their learning and articulate aspects of their own growth and development. This also facilitates clear communication with parents, peers and other audiences. For example, one school chose the following indicators to assist students to select evidence of teamwork:

- Getting along with others
- Doing my bit
- Helping the team get organised

Indicators are best developed in consultation with both staff and students to ensure that a shared understanding develops. Another challenge is to decide how to ensure that the indicators also ‘raise the bar’ in terms of expectations, so that students are clearly identifying and working towards improvement. This necessitates the setting of goals, and encouragement of reflections, analysis and justification.

c) Goal setting, reflection and critical thinking

Many schools involved students in personal goal setting and included this as part of their portfolio. This enabled students to reflect on new learning and change over time, as well as negotiate aspects of their curriculum. The Grange P-12 school uses a ‘goal setter’ in their portfolios to support students (see Appendix 2).

Another approach is to link goal setting to the indicators by asking students to clearly identify starting points, ideas for improvement and evidence of change. This ensures that they need to produce evidence of new learning.

d) Classroom organisation

Templates - once focus areas and indicators are decided, it is desirable to develop a template for or with students that both scaffolds and guides their portfolio development. This should still allow them to express their individuality (in *more* than a design sense) and follow through original ideas.

Archiving work - students need to be taught how to archive and name their work so that they can easily identify and retrieve it. This includes any digital photos they might take.

Start small - a small pilot or action learning project with 2-4 students is a manageable way to start exploring the use of digital portfolios (it's often easier to start with children who are comfortable with ICT and will be good mentors/expert peers for other children later on. Alternatively, you might choose children that you think could benefit from a confidence boost by being the new leaders in this area).

Selecting evidence: criteria and rubrics

Students need to be clear about what is valued and what they should aim to develop, whether understandings, processes, skills or aptitudes. Some schools develop rubrics to assist this clarity, involving students in discussions as to what kind of evidence would constitute excellent or outstanding work or development. Schools that were developing Habits of Mind asked such questions as "What does persistence look like, sound like, feel like?" Clear communication about expectations, purpose and quality is the key to digital learning portfolio development.

Time - It is important that digital portfolios don't simply end up as 'add-ons' to the already busy curriculum. Teachers built time to work on portfolios into normal routines and group rotations, with many classes finding students begging to be allowed to continue working on them during lunch and recess breaks.

Scaling up - Rather than start a whole class on digital portfolio development, some teachers found it easier to focus on a group of 6-7 students per term and to encourage them to draw upon the current unit of work as well as out of school endeavours to identify evidence for their portfolios. These students were then a valuable resource for the next focus group, but also developed self-management skills that enabled them to continue working on their portfolios independently. It is important at this stage to establish effective scaffolding to ensure critical reflection and thinking is developed as well as creative thinking and problem solving.

2. Logistics and Technical considerations

a) Hardware

Before scaling up, it is necessary for schools to assess their technical situation (equipment and network capacity).

Server and storage - schools need to assess their server and storage capacity to store student portfolios. Several schools engaged a technical company to assess this for them. Once students start using video and sound, there will be a huge increase in storage requirements. Some schools set a limit for each student in terms of the total file size of their digital learning portfolio.

Computers in classrooms - access to computers can become an issue and frustration for students if inadequate. Ideally, a minimum of 4 computers in a classroom is required with access to a bank of computers elsewhere providing back-up.

Cameras (moving and still) - provide students with access to a digital camera. These do not have to be of high quality for a digital portfolio and even inexpensive cameras are often capable of taking short video footage. It is often better to teach students how to take photos and create a montage that clearly communicates, with audio backing, than engage in extensive videoing of work. Editing is time consuming, so it is important that students develop a multiliteracies perspective that enables them to judge the most appropriate media for communicating their achievements.

Scanners - many schools thought these were vital pieces of equipment at the start of the project but came to rely more on digital cameras. It is important to discriminate carefully if there are any benefits to scanning work or whether the work should simply remain in a paper portfolio.

CD burner - this is an important piece of equipment that enables digital learning portfolios to be sent home at the end of each year and removed from school servers for alternative storage.

Data projector - enables students to present their portfolios to various audiences. The social process that complements the use of digital portfolios is a vital aspect of the learning.

Microphones - it is worth investing in a good quality directional microphone as students will be disappointed with inferior sound quality (as will the audience for their digital portfolio).

b) Software

Most primary schools settled on using Microsoft Power Point for students to create their portfolios and saving as a web page. Alternatively, a small number of schools experimented with Microsoft Front Page or Dreamweaver web authoring software. Problems with hyperlinking arose with web authoring software, particularly with Front Page when students saved files in incorrect locations. School choice of software was usually related to the confidence students and teachers had in particular programs and a desire to deepen understanding of the program rather than have technical considerations take over.

c) Student access/privileges on network

Sharing and commenting on student work is a desirable feature of student learning portfolios. This required schools to reconsider student access and privileges on the school network, ensuring that individuals work was protected from tampering but also enabling others to provide feedback or questions. Forms embedded in digital learning portfolios were used effectively for this, or email comments from simpler Power Point portfolios.

3. Whole school learning and change

Whatever a school's decision as to how best to begin the inclusion of digital learning portfolios into the curriculum (e.g. whole school consultation or small team to pioneer

the work), decide on a manageable process for your school community and grow from there.

a) Pioneering team

A small pioneering team of interested people that regularly involves staff in consultation in relation to the focus areas and portfolio design is an effective way to start. It is important that the team takes time to play, experiment and try out ideas as well as meeting regularly to share student work and discuss the challenges involved. Linking up with pioneering teams is also beneficial.

b) Professional development for staff

Staff who are not involved in the pioneering team often worry that their technical knowledge (or lack of) will be a barrier to utilizing digital learning portfolios with their students. It can be inspiring for these teachers to have the opportunity to see students presenting their first portfolios and provide critical feedback in relation to these. 'Just in time' technical training that people can put to immediate use is valuable, provided the technical aspects of digital portfolio development do not take over the conceptual. One school introduced 'Techie Brekkies' as a way of providing staff with short technical training sessions e.g. using the digital camera. The ongoing involvement of other teachers in the design process that clearly articulates the purpose, values and teaching approaches underpinning the digital learning portfolio is an important aspect of any professional learning program.

c) Scaling up

This needs to be a staged process, both in terms of ensuring the school has the technical capacity to manage an increase in multimedia storage required and individual readiness. A flexible, staged process with good support systems in place for beginners will usually work well. School organization needs to create opportunities for informal sharing and honest teaching conversations, as well as providing adequate time to experiment and obtain support.

Stages of whole school change to consider include:

1. Consciousness raising
2. Modelling and skill/content instruction
3. Assume diversity and difference
4. Distributed informal leadership
5. Forum for critical reflection, inquiry and talk
6. Broader based community collaboration (O'Rourke, 2003)

4. Communicating Learning to Others

Schools found that the audience for the portfolios was wider than first anticipated and included peers, teachers, parents, employers and wider community members.

St. Albans East Primary School

Students shared their portfolios with peers throughout the term to reflect on what they had achieved and what still needed to be done, as well as celebrating within grades and across grades when they were completed for the term. These were also shared with teachers and

with parents for reporting purposes. Students spoke to their portfolios, showcasing what they had learned from the aspects of understandings, learning tools and the technical understandings.

One grade is currently exploring three-way conversations between parents/guardians, teachers and the students as part of a parent teacher interview situation. This will be evaluated and considered to replace current parent teacher interviews that are heavily reliant on teacher talk rather than student talk.

Schools have enabled students to present their portfolios in a range of ways, from inviting parents to view their child's portfolio informally, to presenting portfolios at parent information nights, school council meetings, annual general meetings and charter development meetings. Some students have been invited to present at community network meetings beyond the school.

Schools have also explored how digital portfolios can assist with the transition process as students move to new year levels. Roundtables and exhibitions (see Appendix 3) were also found to be an effective way to share and critique portfolios, and to enable students to provide further oral explanations about their learning and thinking.

Privacy issues have resulted in a restriction of the use of the Internet for sharing portfolios, particularly as few schools have broadband access and even if they did so, families may not. Most schools copy portfolios on to a CD at the end of each year for students to take home. There are still access issues for some families that don't have computers so it has been important for schools to provide alternative ways of viewing the portfolios e.g. morning teas where parents are invited to the classroom or three-way conferences.

5. Final Commentary

The Victorian research circle has made an enormous contribution to developing understandings in relation to authentic and effective use of digital learning portfolios in schools. In particular, they have highlighted the importance of focusing on holistic representations of the learner and the changing roles and responsibilities of teachers and students in both the design and construction of the portfolios. In summary, the main recommendations from the research circle are:

1. **Clarify the purpose** - take time to, scope and audience for digital learning portfolios
2. **Start small** - identify a pioneering team of volunteers willing to invest time and energy into the exploratory stages of development
3. **Develop focus areas** - identify cross-curriculum attributes, competencies or skills that are highly valued by the community and necessary for effective learning
4. **Develop indicators for each focus area** - develop shared understandings of each focus area and two to three indicators of development in that area
5. **Include opportunities for goal setting, reflection, feedback and critique** - the design of the portfolio needs to provide a scaffold for students to clearly identify their starting points and development goals so that evidence of change over time can be gathered. Obtaining feedback and commentary and acting on these can also contribute to such change efforts
6. **Develop classroom management and organisation strategies** - this includes

developing a template that provides an effective scaffold for students; teaching file management and archiving habits; integrating time for construction into the regular program; working with small groups and facilitating peer or cross-age tutoring/mentoring; and progressively scaling up

7. **Continually clarify expectations with students** - conversations about the learning, evidence selection and progress are vital aspects of portfolio development. It is not simply a technical exercise
8. **Plan logistics of technology provision** - this includes skilling of staff and students, access to hardware including peripherals, adequacy of network capacity, software recommendations, and technical trouble-shooting
9. **Develop a whole school learning and change plan** - this should include ways to support a pioneering team, opportunities to share learning and raise consciousness about the work, professional learning of staff and long term plan for scaling up.
10. **Provide opportunities for students to communicate to interested audiences** - the social process that encompasses the use of digital portfolios is generally more valuable than the portfolio product

The development of multiliteracies (see Appendix 4) became increasingly important as teachers ventured further into the use of mixed modes of communication. There was more to communicating through video than simply shooting footage. The assistance of a musician and film maker who encouraged the development of narrative and student ideas assisted in refining our use of digital learning portfolios.

The challenges of organisation and time within existing school cultures remains. Teachers drive, energy and commitment cannot be underestimated in relation to moving this pioneering work forward. Their willingness to bring their early attempts at portfolios to cluster meetings was invaluable in terms of allowing the group to clarify how digital portfolios could contribute to student learning and more authentic assessment and representation of the learner. Each example of a portfolio provided colleagues with an opportunity to examine both pedagogy and purpose, as well as the effectiveness of the communication in relation to representing the student as a learner. It is strongly recommended that teachers continue to have opportunities for this type of sharing and critique as this always provided a strong stimulus for advancing thinking and conception. A questioning framework (see Appendix 5) was developed to assist the group to critique their own work more deeply. The use of ANSN protocols was also invaluable in developing greater insight into future directions for digital learning portfolio development.

There is a place for digital learning portfolios in schools, used purposefully in tandem with other ways of documenting student learning. Provided they are focused, involve students in design, decision-making, goal-setting and reflection and concentrate on holistic development of the person rather than cumulative curriculum outcomes - they have much to offer. Not only do they provide a richer picture of what students know, understand and can do, they can be a catalyst for genuine learning partnerships between teachers and students and an assessment and learning tool that is a more adequate match for the complex learning goals, pedagogy and curriculum of the 21st century.

Appendix 1

Program Achieve - You Can Do It

- Confidence
- Effort and Persistence
- Happenings, Thoughts, Feelings, Behaviours
- Self Acceptance/Self-Esteem
- Goal Setting
- Time Management and Organisation
- Making Friends
- Handling Conflict

Art Costa and Bena Kallick's "Habits of Mind"

- Persisting
- Managing impulsivity
- Listening and understanding with empathy
- Thinking flexibly
- Thinking about thinking
- Striving for accuracy
- Questioning and posing problems
- Applying past knowledge to new situations
- Thinking with clarity and precision
- Gathering data through all senses
- Creating, imagining, innovating
- Responding with wonderment and awe
- Taking responsible risks
- Finding humor
- Thinking interdependently
- Remaining open to continuous learning

Appendix 2: The Grange Goal Setter

Set Goal	Write down the “big idea” behind your goal. Use general terms. You’ll get specific later.
Count the Cost	What will the cost be to achieve your goal? What will you need to do? How much time will it take? Will you need to give anything up to achieve it? If you’re not prepared to pay the price to achieve your goal, don’t do it.
Be Specific	For example, if in the first part of this you wrote you wanted to go to the Olympics to swim, but you’re not prepared to pay the price of training every morning at 5am, then this can’t be a goal for you.
Be Prepared	Write your goal down in specific, measurable, achievable detail. Think about the times that might make it hard to achieve your goal, your moments of weakness. Work out how you will overcome these.
Pick a start date	Pick a specific date. Make it clear in your head when your starting.
Find a Friend / Supporter	Find a friend or family member who can help you reach your goal. Perhaps they will keep a check on you, remind and support you or help you in your moments of weakness. Perhaps you will need someone to help you by driving you somewhere, or helping you do things.
Schedule some checkups	Set some dates to check up on how you are doing. Deliberately spend some time reflecting and assessing how you’ve been going. It might be good to do this with one of your supporters.
Goal reached when...	How will you recognize when you have reached your goal? Be specific.
Reward yourself	Write down how you will reward your self for achieving your goal. You might like to include small rewards at each of your scheduled check ups.

Appendix 3

ANSN Exhibitions Project

The ACT Exhibitions project has used student exhibitions as an organizing idea for curriculum innovation and a more authentic mode of assessment. Key reasons for using this approach have been:

- **Exhibitions connect in meaningful ways with the curriculum:** In Exhibitions, efforts are made to develop transdisciplinary integration of curriculum within the four areas of essential learning agreed for the high school years. The essential learnings conceive students as active in their learning, as having the chance to work with teachers and the community in developing knowledge. The Exhibitions process brings the wider community into connection with the school in the development and delivery of the work. Assessment, as a means of estimating what has been learned and how well it has been learned, needs to be appropriate to this whole approach, emphasising the core aspects of what is done.
- **Exhibitions honour diversity:** As Exhibitions involve negotiation between students, teachers and their community about what knowledge will be demonstrated, it is possible to recognise a variety of approaches to learning, as well as alternative knowledges. There is no one test for all, or one way of demonstrating what is known, valued and understood. The Exhibition is a much more egalitarian process across ethnic, socio-economic, gender, location and other differences. This is crucial when there is evidence of increasing diversity within and across schools.
- **Exhibitions bring the student into the community and the community into the school:** The Exhibition brings the student's work into the community and therefore has the potential to contribute knowledge to the broader community. As well, it is a practical way for students to learn about their civic responsibilities, active citizenship and how to demonstrate in a real way what they may contribute now and in the future. In a practical way, students have real opportunities to recognise, communicate about and negotiate values and meanings within and across multiple communities. Involvement in Exhibitions also provides them with a very powerful "practice" for interviews and portfolio presentations in the world of work.
- **Exhibitions are consistent with the values embedded in the four areas of essential learnings:** Consistent with the whole approach in using Exhibitions are the principles of valuing respect, responsibility, relationships, rigour, relevance and resilience in our young people and their communities. The "Exhibition" is a strategic and practical manifestation of the beliefs, values and priorities that underpin the authentic learning. They encourage the practical embodiment of the four essential learnings: critical literacies, community building, real life research and futures study and access to a wide range of cultural, ethical and environmental heritages.
- **Exhibitions demonstrate what students CAN do rather than what they can't:** Student assessment is too often organised so that a significant proportion of students fail and what they cannot do becomes the focus of teacher, student,

parents and media discussion. Much of what a student does in high school is seen solely inside the classroom, only by the single teacher and the student. Exhibitions focus attention of a wider group on the work of each student in a public way.

- **Exhibitions build in meaningful ways on the best of Australian and international research on school curriculum change:** Much is known about school reform and the reasons for its many failures, despite good will and effort by a range of people. The Research Circle process and the focus on curriculum and improving student learning outcomes are informed by contemporary educational research in middle schooling and teaching and learning issues. They also take into account national and international innovations literature on why most school reform does not succeed. These learnings are built centrally into the design of the Exhibitions process and form the basis of much of the teacher discussion and investigation.

Appendix 4

Why Multiliteracies?

- Blending of traditional and new communications media requires new literacies
- New technologies mean that students are confronted with the necessity to make sense of communication that is delivered in multiple modes (e.g voice, text, graphical, video/animation, music, gestural, etc)
- Students also need to learn how to construct their own communication using these multiple modes of communication with the media of their times - Animation example
- The development of multiliteracies involves making creative judgments and engaging in performance
- Multiliteracies are required for work and leisure, citizenship and community participation, personal growth and cultural expression.
- A multiliteracies agenda addresses the importance of communicating using languages and intercultural understandings
- Teachers must approach the development of multiliteracies through pedagogy, design and critique
- Visual, fine and performing arts rise to prominence in a multiliteracies agenda in conjunction with new technologies
- Digital Portfolios bring a multiliteracies perspective to provide students with new opportunities to record evidence of what they know, understand and can do. This rich picture incorporates voice, photographs, video clips and text.

Appendix 5: Questions

About Purpose

Why are we doing this—what is our educational intention, the outcomes we want in terms of students' knowledge, understandings, skills and values?

What influences are currently shaping our thinking about our use of digital portfolios?

About Authentic Tasks

To what degree is the task situated in 'real world' authenticity or 'artificial' (school culture) authenticity?

How is what we are doing preparing students for the world beyond school?

What meaning and usefulness is there for students?

What opportunities do students have to negotiate what should be learned and how?

What audience is there for what they produce?

About Pedagogy

What opportunities are there for higher order thinking and engaging students in 'intelligent conversations' about learning? How do you rate the 'intellectual quality' of what students are doing?

How much structure are we providing students - do they tend to innovate within it or conform?

How much power do students have in the learning relationship?

What values are being communicated to students? Are they able to communicate their values?

What is driving the way we are using the portfolios?

About Assessment

What is the best way to capture and provide evidence of what learning took place?

What's worth assessing?

About Technology Use and Digital Portfolios

To what degree are we trying to 'squeeze' new technologies into familiar ways of 'doing education'? Are we simply accommodating use of digital portfolios into our existing practices—repackaging 'old wine in new bottles'?

What new things are the digital portfolios enabling us to do?

What teacher-student relationship are we setting up in the way we are using the portfolios?

Whose needs are we satisfying?

Who controls the template? How much structure is good?

When you view a digital portfolio what comes across the strongest - what the system values, the school values, the teacher values or the student values?

About Students and Parents

How does our use of Digital Portfolios benefit students and parents?

About Learning

What learning did we value? What unexpected or unanticipated learning occurred?

What do kids think about the way they learn and what learning is valued?

(Some questions have been adapted from 'Teachers and Technoliteracies' by Lankshear, Snyder and Green (2000), pp 34-35; 'Empowering Education' by Ira Shor (1992); ICT, Pedagogy and the Curriculum Loveless and Ellis (Ed) (2001). Others emerged during discussions with teachers in the project. Compiled by Maureen O'Rourke, ANSN State Coordinator, Victoria

Appendix 6: Case Study

Concord - a specialist school

Lynne Wittner, Kirsten Telford, Chris Norman, Andrew Donnison

Project overview

The Digital Portfolio has been designed to provide a broader view of the students' life at school and explores areas such as: academic me, me as a communicator, social me, creative me, and physical me. The Digital Portfolio aims to further explore 'who the student is' by focussing on other important aspects of the students life, rather than a purely academic focus which was reflected in the paper portfolios. It is multidimensional, using video, photographs and sound as well as text to represent the learner.

Background

The Australian National Schools Network (ANSN) is coordinating this research project. Concord is one of the lead schools that has continued with the project for over three years and the only Specialist School in the research circle.

Purpose

The purpose of the digital portfolio is to explore new methods to further enhance the assessment and reporting process through the use of technology.

- The project aims to present aspects of the student that are not traditionally covered by conventional assessment and reporting techniques. The Digital Portfolio attempts to include a more diverse overview of the student as a whole individual.
- The project is designed to be ongoing enabling the Portfolios to show and map the development of a student over their time at Concord School.
- The Digital Portfolio aims to capture and provide examples of authentic learning.
- The Digital Portfolio provides students with the opportunity to take ownership of their learning and work, and enables them to express themselves in an individual way.
- The Digital Portfolio provides opportunities for reflection on learning and acquisition of skills, from the students, teacher and parent.

It is foreseen that the digital portfolio project will be used and presented in the following ways.

- To enable the student to recognise themselves as learners, reflect on their learning and promote positive self esteem/self image
- To enable the student to create a digital representation of themselves to reflect who they are and to celebrate their achievements
- At PSG meetings to parents and carers - *to show how the student interacts within the school environment*
- As a tool for the students to represent themselves to the wider community and extended family.
- Job placement, work experience - Transition/integration/TAFE

School based research

There are currently 3 teaching staff involved in the project trial at Concord (this represents 2 of the 4 sub schools, the technology specialist teacher and one of the team leaders.) They have been supported by the IT Coordinator.

Teaching Staff involved in the research project started by developing the Digital Portfolio for one student in their class in 2001.

In 2002 this was extended to one class group and a complete portfolio for a Junior student. An instruction manual was developed and trialled by volunteers.

In 2003 it is anticipated that interested staff will trial the Digital Portfolios with student/s in their class. Workshops will be conducted by the research group for staff who are interested in trialling the project, and support will be given by the Technology teacher during tech sessions.

FrontPage is the program that was selected to develop the portfolio format. This program was selected due to similarities with Microsoft Word and Office. It was felt that using FrontPage would encourage and further develop computer skills, as well as being an easier way to lead into the development of future web pages.

In 2002 we decided after meeting with other schools involved in the project to revamp the design of the portfolio, still using front page but making the links into separate PowerPoint presentations. We have incorporated "Boardmaker symbols" to identify these links. Boardmaker symbols are readily used by the students in the Junior School and the symbols would be able to be readily identified by majority of the older students.

Power point was chosen because it was felt that at this stage many of our staff and students are familiar with the program.

In mainstream schools students develop their own Digital Portfolio with the teacher acting as a facilitator, however at Concord we have created a template where the students are able to have as much input and control over their Portfolios depending on the students skills and ability.

Developing our portfolio

There are three links when the portfolio is opened

- All about me
- My school Year
- School Report

In the initial draft we had scanned work samples into the "All about me" section. We decided to review this as it didn't capture authentic learning which was one of the aims of the project. In this instance the students found their paper Portfolios more meaningful as the actual work was there for them to see. Once work was scanned and placed into the Digital Portfolios the work sample began to lose its meaning for many of our younger students.

We have now set up the template to show the five aspects of the student and linked these to their **school year**.

These areas are: academic me, me as a communicator, creative me, physical me, and social me. These categories were selected to show a broad spectrum of the student and their individuality

Audio, video and digital photos have been used to create a broad view of the student, to highlight these different dimensions of their character.

The samples selected help to create a representation of the student, and provide an insight into the student's personality - more than just a school report.

The **All About me** section has been simplified but allows students to include aspects of them selves that have not been included in the other sections of the digital portfolio. (eg, hobbies, friends, pets, special interests)

The **School Report Section** is a direct link within FrontPage to the Student Learning Plan (SLP) and this is easily updated throughout the year.

Uses of the digital portfolio

The portfolio has been designed to serve different purposes for students, staff and parents.

Students

It was felt that the portfolio should directly involve the students based on their ability and provide them with a means to recognise/identify and showcase their achievements, as well as record significant events that occur during the school year.

The Digital Portfolio involves the following processes: ***selection, rejection, reflection and projection*** which provides the students with the opportunity to take ownership of their learning and work in order to create a Portfolio that best represents them as an individual.

It provides the students with the opportunity to

- Show a diversity of their work
- Make choices – what do they consider to be their best work? (***selection/rejection***)
- Reflect on the progress they have made throughout the year (***reflection***)
- Celebrate their achievements and reflect on their work
- Strive for improvement in their work
- Produce a permanent and ongoing record of their development
- Develop their own personal archive of events they have been involved in on a particular year
- Showcase their achievements to their class, teacher, family, friends, and wider community (***projection***)

The Portfolio is also seen as a transportable profile of the student that they can take to others schools, post school options and employers when they leave Concord.

Staff

The Portfolios are being explored as a means of collating assessment material, and developing a comprehensive profile of the student. It is proposed that the Digital Portfolios will be stored on the schools server to track the child's progress over the time that they attend Concord.

Parents

It is envisaged that the portfolio will be used as part of PSG meetings. Parents will have access to all areas of the Digital Portfolio. It will enable parents to see their child's overall progress throughout the year.

It is envisaged that the Portfolio will be used to enhance assessment and reporting by providing a more comprehensive picture of the child and their development throughout the year.

Future Developments

The student's yearly portfolio can be burned to CD-ROM and distributed to parents as requested. This year (2003) we are investigating the use of DVD and its application to Digital Portfolios. Concord is currently developing a DVD version of a Digital Portfolio with one student within the school. This research will be reviewed at the end of the year to assess its viability. A new portfolio format has been developed using PowerPoint. The students are familiar with PowerPoint and it is envisaged that many students will develop greater responsibility for the development of their Portfolio.

Acknowledgements

These support materials have been made possible by the dedication and commitment of a group of teachers who have worked through their own inquiry process to better understand how the use of digital portfolios could benefit student learning. By documenting their teaching and learning and sharing student work and process, they have pioneered the use of digital portfolios to support authentic learning and assessment in Australia. Their contribution to our professional knowledge is greatly appreciated:

Teacher Researchers:

Jodi Park	Kings Park PS
Dolores Giordiamaina	Kings Park PS
Rose Galea	Kings Park PS
Lynne Wittner	Concord
Kirsten Telford	Concord
Andrew Donnison	Concord
Chris Norman	Concord
Joanna Stanford	St. Albans East PS
Teresa Stone	Killara PS (previously St.Albans East)
James Anderson	The Grange
Michael Cross	The Grange
Sherryn Toner	The Grange
Lynn Davie	Essendon Nth PS
Helen Otway	Essendon Nth PS
Gale Jurkiw	Alphington PS
Cameron Traill	Greenvale PS
Sharon Liddle	Greenvale PS

Project Management and Facilitation

Dr. Maureen O'Rourke

References and Further Reading

Northwest Evaluation Association (1990). Electronic portfolios in *Educational Technology: An Encyclopaedia*. Eds ABC-CLIO, 2001. Available [Online] <http://transition.alaska.edu/www/portfolios/encyclopediaentry.htm>

Barrett, Helen (2000, April). Create Your Own Electronic Portfolio. *Learning & Leading with Technology* Vol. 27, No. 7, pp. 14-21

Barrett, Helen C., "Technology-Supported Assessment Portfolios," *The Computing Teacher*, March 1994, pp. 9-12. [Online] <http://transition.alaska.edu/www/portfolios.html>

Burke, K. (1999). *How to Assess Authentic Learning*. Arlington Heights, IL: Skylight Professional Development.

Burke, Kay (1997). *Designing Professional Portfolios for Change*. Palatine, Illinois: IRI/SkyLight Training & Publishing

Danielson, Charlotte; Abrutyn, Leslye (1997) *An Introduction to Using Portfolios in the Classroom*. Alexandria: Association for Supervision and Curriculum Development.

Fogarty, R. (1998). *Balanced Assessment*. Arlington Heights, IL: Skylight Professional Development

Hartnell-Young, Elizabeth and Morriss, Maureen (1999). *Digital Professional Portfolios for Change*. Arlington Heights: Skylight Professional Development

Herman, J. L., Aschbacher, P.R., & Winters, L. (1992). *A practical guide to alternative assessment*. Alexandria, VA: Association for Supervision and Curriculum Development.

Kankaanranta, Marja, Barrett, Helen & Hartnell-Young, Elizabeth (2000). Exploring the use of electronic portfolios in international contexts. Paper submitted to Ed-Media Conference.

Nicadula, D. (1993). The Digital Portfolio. [Online]. http://www.essentialschools.org/cs/cespr/view/ces_res/225

O'Rourke, M. (2003). *Technology and Educational Change*. Dissertation. Melbourne: Victoria University.

Revenaugh, Mickey, "Assessment: Machine-Gauged," *America's Agenda*, Fall 1993, pp.32-34.

Solomon, Gwen, "Electronic Portfolios," *Electronic Learning*, February 1991.

Wiedmer, Terry L., "Digital Portfolios: Capturing and Demonstrating Skills and Levels of Performance," *Phi Delta Kappan*, April 1998, pp. 586-589.

Wolf, Kenneth (1999). *Leading the Professional Portfolio Process for Change*. Arlington Heights, IL: Skylight Professional Development